

E. C. [Signature]

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-20-68
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

ISUZU MOTORS LIMITED

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102, and 43103 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-3;

IT IS ORDERED AND RESOLVED: That the following Isuzu Motor Limited 1988 model-year diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 8,500 pounds:

<u>Engine Family</u>	<u>Displacement Cubic Inches (Liters)</u>	<u>Exhaust Emission Control Systems (Special Features)</u>
JSZ0235EAA0	235 (3.856)	Engine Modification (Diesel Injection-Direct) (Turbocharger)

Engine models and codes are listed on attachments.

The following are the certification emission values for these engine families:

<u>Engine Family</u>	<u>Hydrocarbons gm/bhp-hr</u>	<u>Carbon Monoxide gm/bhp-hr</u>	<u>Nitrogen Oxides gm/bhp-hr</u>	<u>Particulates gm/bhp-hr</u>
JSZ0235EAA0	0.6	1.5	5.1	0.5

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2036).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order.

Executed at El Monte, California this 19th day of August, 1987.


K. D. Drachand, Chief
Mobile Source Division

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Manufacturer ISUZU MOTORS LIMITED Engine Family JSZ0235EAA0
 Evaporative Family NA Engine Type L4
 Liters (CID) 3.856(235)

ABBREVIATIONS

Ignition System

CA-Centrifugal Advance
 ECU-Electronic Control Unit
 EI-Electronic Ignition
 ESAC-Electronic Spark Advance
 Control
 VA-Vacuum Advance
 VR-Vacuum Retard

Fuel System

CFI, CL, DID, DIP, EFI, MFI
 nV-nVenturi Carburetor

Exhaust Emissions Control System

AIP-Air Injection-Pump
 AIV-Air Injection-Valve
 DBC-Dual Bed Catalyst
 EGR-Exhaust Gas Recirculation
 EIC-Electronic Injection Control
 EM-Engine Modification
 OC-Oxidation Catalyst
 OS-Oxygen Sensor
 HOS-Heated Oxygen Sensor
 SPL-Smoke Puff Limiter or
 Throttle Delay
 TOC-Trap Oxidizer, Continual
 TOP-Trap Oxidizer, Periodical
 TWC-Three-Way Catalyst
 WUOC-Warm-Up Oxidation Catalyst
 WUTWC-Warm-Up Three-Way Catalyt

Special Features

CCV-Combustion
 Chamber Valve
 CFI-Central Fuel
 Injection or
 Throttle Body
 Injection
 DID-Diesel
 Injection-
 Direct
 DIP-Diesel
 Injection-
 Prechamber
 EFI-Electronic
 Fuel
 Injection
 IC-Intercooler
 or Aftercooler
 MFI-Mechanical
 Fuel
 Injection
 OBD-On-Board
 Diagnostics
 TC-Turbocharger

VEHICLE MODELS:

Engine: Front _____ Mid. _____ Rear _____
 Drive: FWD _____ RWD _____ 4WD Full Time _____ 4WD Part Time _____

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HEAVY-DUTY DIESEL ENGINES

Manufacturer ISUZU MOTORS LIMITED Engine Family JSZ0235EAA0
Liter (CID) 3.856(235) Eng. Type L4
Emission Control Sys. and (Special Features) EM (DID, TC)

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)
4BD1T	DIESEL KIKI CO., LTD. C944551021 8944574770	DIESEL KIKI CO., LTD 1153001420	121 HP 3000 RPM.	70.0 mm ³ /stroke (46.7 lbs/Hr)	235 ft-lb 2200 RPM	70.0 mm ³ /stroke (34.2 lbs/Hr)

Date of Issue _____ Revisions: _____